

Section II. REMARKS

Terminal Disclaimer

Applicants acknowledge the Examiner's entry of the terminal disclaimer filed August 22, 2002 (page 2, lines 2-6 of the January 15, 2003 Office Action).

Amendment of Specification

The specification has been amended at page 2 thereof to specify the priorities applicable to the present application as a continuation of U.S. Application No. 09/093,291 filed June 8, 1998.

Specifically, the grandparent priority application has been identified, consistent with the applicable priority of the parent application no. 09/093,291, which is a continuation in part of U.S. Application No. 08/966,797 filed November 10, 1997.

The parent application 09/093,291 issued July 3, 2001 as U.S. Patent 6,254,792 and the grandparent application issued January 25, 2000 as U.S. Patent 6,018,065.

Rejection under 35 U.S.C. §112, first paragraph

In the January 15, 2003 Office Action, claims 2-4, 12-14, 24-27, 57, 59, and 60 were rejected under 35 U.S.C. §112, first paragraph, as setting forth a proviso in claim 57 lacking basis in the originally filed specification.

While applicants maintain that such proviso is a fair delimitation of applicants' claimed invention, and that the language of the proviso need not be in *ipsissima verbis* in the specification to comport with §112, first paragraph requirements, nonetheless, to advance the prosecution of the application, claim 57 has been amended herein to add other limitations and to remove the proviso.

Withdrawal of the 35 U.S.C. §112, first paragraph rejection is therefore requested.

Rejection under 35 U.S.C. §102(b)

In the January 15, 2003 Office Action, claims 3, 4, 13, 14, 57, 59 and 60 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,814,238 to Ashby et al. (hereinafter Ashby).

Ashby was cited as teaching a method for removing contaminants of Pt, Pd, Ir and Rh from the surface of a wafer using a gas phase reactive composition.

Applicants traverse this rejection in application to claim 57 as amended herein.

At the outset, it is noted that Ashby is not competent §102(b) prior art in respect of the present application. The present application is a continuation of U.S. Serial No. 09/093,291 filed June 8, 1998, and now issued as U.S. Patent No. 6,254,792.

To qualify as §102(b) prior art, Ashby would have had to issue more than one year prior to the U.S. filing date of the parent case of the pending continuation application. Ashby issued on September 29, 1998, subsequent to the filing date of the parent patent application, and Ashby therefore is not §102(b) prior art.

Even if Ashby were qualified as applicable prior art under one of the other provisions of 35 U.S.C. §102 (viz., other than §102(b)), Ashby still would not anticipate the method of claims 3, 4, 13, 14, 57, 59 and 60, as herein amended.

Claim 57 as now amended recites:

“57. A method for removing from a microelectronic device structure a noble metal residue including at least one metal selected from the group consisting of platinum, palladium, iridium and rhodium, the method comprising contacting the microelectronic device structure with a dry etching composition consisting essentially of (i) at least one dry etching agent selected from the group consisting of XeF₂, SiF₄, Si₂F₆, SiF₂ radicals, and SiF₃ radicals, and (ii) optionally, carbon monoxide ”

Ashby discloses a method for dry etching transition metals on a substrate using a dry etch composition containing nitrogen- or phosphorus-containing π-acceptor ligands. Such N- or P- etching agents are in all instances required by, and are critical in, the etching composition of Ashby, but such agents are excluded

from applicants' claimed composition by the "consisting essentially of" limitation of claim 57. Claim 57, as well as claims 3, 4, 13, 14, 59 and 60 dependent thereunder, are patentably distinguished over Ashby.

Applicants have added claim 62, which recites:

"62. A method for removing a noble metal residue from a microelectronic device structure, wherein said noble metal residue is selected from the group consisting of palladium, iridium and rhodium, said method comprising contacting the microelectronic device structure with a composition consisting essentially of: (1) SF₆ and optionally (2) carbon monoxide."

Such claim is likewise distinguished over Ashby, which in all instances requires that the dry etch composition contain nitrogen- or phosphorus-containing π-acceptor ligands.

Rejection under 35 U.S.C. §102(e)

In the January 15, 2003 Office Action, claim 61 was rejected as being anticipated by Tea et al.¹

The Tea et al. reference is not competent §102(e) prior art for the present case. To qualify as §102(e) prior art, a reference must be "(1) an application for patent, published under section 122(b) . . . or (2) a patent granted on an application for patent . . ." 35 U.S.C. § 102(e) (as amended in view of the AIPA and H.R. 2215). A published scientific article does not meet these criteria and as such, does not qualify as prior art under § 102(e).

Further, Tea et al. was published subsequent to the filing of the grandparent application of the present application, from which priority is claimed. Applicants' grandparent application was filed November 10, 1997, prior to the December, 1997 publication of the Tea et al. article, and thus Tea et al. is not applicable art under any other provisions of §102.

It therefore is requested that the rejection of claim 61 based on Tea et al. be withdrawn.

Provisional Rejection Under the Judicially Created Doctrine of Obviousness-Type Double Patenting

¹ Tea et al., *Journal of Microelectromechanical Systems*, vol. 6, no. 4, pg 363-372 (Dec. 1997).

In the January 15, 2003 Office Action, claims 2-4, 12-14, 24-27, 53, 57-61 as then pending were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6, 8-10, 12-17, 21-23, 25, 26, 28, 29, 31-33, and 35-51 of co-pending Application No. 09/874,102. The Examiner has characterized the obviousness-type double patenting rejection as provisional "because the conflicting claims have not in fact been patented."

Since the present amendment otherwise resolves all issues of patentability of the claims as amended/added herein, it is requested that such provisional rejection be held in abeyance pending disposition of the present application based on this response, since a patent issuing on the present application prior to any patent issued on co-pending Application No. 09/874,102 would not require any corresponding terminal disclaimer in this application.

Allowable Subject Matter

In the January 15, 2003 Office Action, claims 24-27, 53 and 58 were found to be patentably distinguishable over the prior art, but stood provisionally rejected under the judicially created doctrine of obviousness-type double patenting.

Since the present amendment otherwise resolves all issues of patentability of the claims as amended/added herein, and a patent issuing on the present application based on allowance thereof in response to this Amendment would be prior to any patent issued on co-pending Application No. 09/874,102, applicants request that claims 24-27, 53 and 58 be found formally allowable.

Claim 24 has been amended herein to place same in independent form.

Fee Payable for Added Claims

The net addition of two (2) independent claims (rewritten claim 24 and added claim 62) and one additional claim (claim 62) herein does not increase the number of total claims and number of independent claims beyond those for which payment previously has been made. Accordingly, no added claims fee is due.

Nonetheless, if any additional fee or charge is determined to be properly payable in connection with the entry of this amendment, the Commissioner is hereby authorized to charge any deficiency in fees to Deposit Account No. 08-3284 of Intellectual Property/Technology Law.

CONCLUSION

Claims 2-4, 12-14, 24-27, 53, and 57-62 as amended/added herein and now pending in the application, are fully patentably distinguished over the cited references, and in form and condition for allowance. Issue of a Notice of Allowance for the application is therefore requested.

If any issues remain outstanding, incident to the formal allowance of the application, the Examiner is requested to contact the undersigned attorney at (919) 419-9350 to discuss same, in order that this application may be allowed and passed to issue at an early date.

Respectfully submitted,



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